A CASE OF INTENTIONAL ORAL INTAKE OF T61

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OBJECTIVE

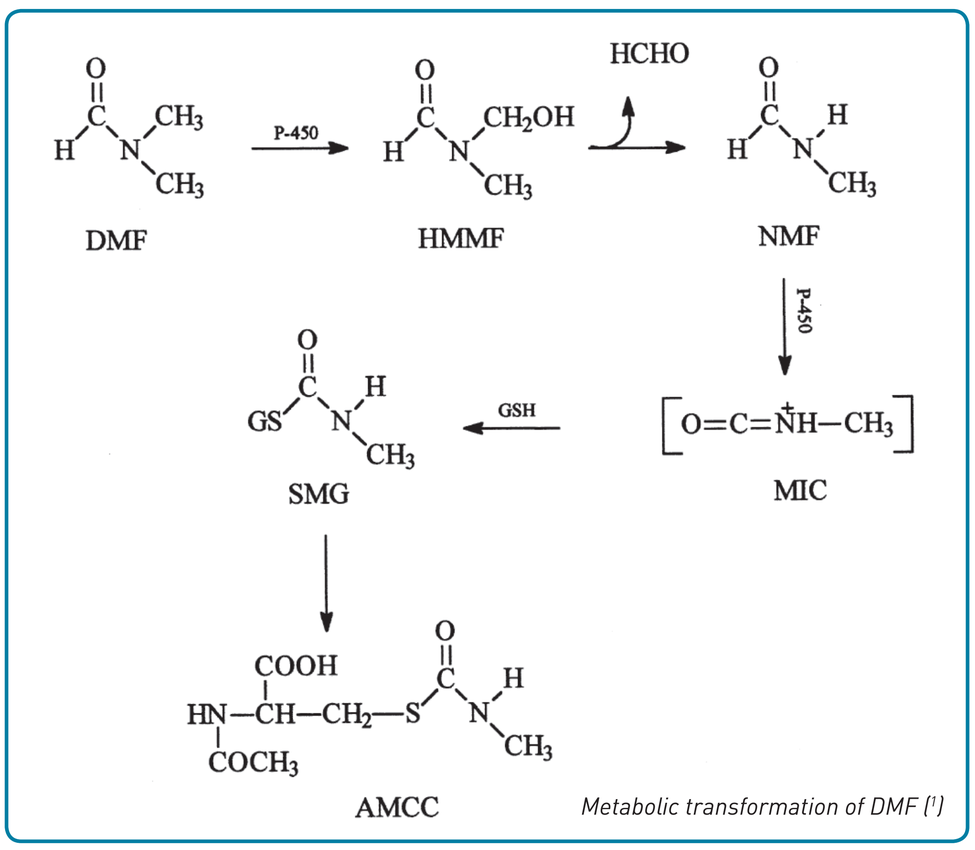
We present a case of a suicide attempt by oral intake of 75 mL T61®.

CASE REPORT

In a suicide attempt, a 46 year old male veterinarian ingested 75 mL of T61®. Ten minutes later, he was unconscious and rapidly went into cardiac arrest. His colleagues immediately initiated cardiac resuscitation. The emergency medical services arrived 20 minutes after ingestion. The victim was immediately intubated and adrenaline was injected, which led to recovery of a heart rhythm.

At the emergency department, a second adrenaline shot and vasopressors were needed to treat a second cardiac arrest. After contact with the Poison Centre, Intralipid 20% and N-acetylcysteine (NAC) therapy was initiated. The patient remained haemodynamically stable and was extubated after 1 day. On day 3, a four-fold increase of ALAT and ASAT was noticed and PTQuick was reduced to 42%. In the medical history, one can point out chronic alcoholism and a partial hepatectomy (post traumatic).

NAC therapy was continued during 6 days at the intensive care unit. Subsequently, the patient remained in hospital for 2 days until normalization of the liver enzymes.



Metabolic transformation of DMF ([1])

DISCUSSION

T61® (Tanax®), a product used for euthanasia of animals, is marketed in several countries and is available in 50 mL vials. Each mL contains 200 mg embutramide (general anaesthetic), 50 mg mebezonium (curare-like action), 5 mg tetracaïne (local anaesthetic) and 0.6 mL dimethylformamide (DMF) as a solvent.

By intravenous administration, the 3 active components exert an immediate depressive cardiovascular and neurologic action. In voluntary intoxications, the intravenous injection is the most dangerous. Due to its simplicity of use, the oral route is also reported. Depending on the dose, it can lead to coma and cardio-respiratory failure.

The solvent DMF is hepatotoxic, not by itself, but probably via its reactive intermediate methylisocyanate (MIC) [1,2]. Its toxicity is mainly reported after oral administration rather than by the other routes (subcutaneous, intravenous, ...) and usually emerges a few days after the intoxication [1]. As a so-called 'universal organic solvent', DMF has been chosen for its property of dissolving both organic (embutramide and tetracaine) and inorganic (mebenzonium) molecules.

CONCLUSION

In addition to the cardiovascular and neurologic toxicity of the 3 active components of T61, attention should also be given to the hepatotoxicity of the solvent DMF, which is probably mediated by its metabolite MIC. As MIC is detoxified by glutathione, early treatment with N-acetylcysteine should be considered to prevent liver damage subsequent to DMF exposure [1,2].

REFERENCES

1. Giorgi M, Bertini S TANAX (T-61): an overview. Pharmacological Research 2010; 41(4): 379-383.
2. Hantson P, Villa A, Galloy AC, et al. Dimethylformamide metabolism following self-harm using a veterinary euthanasia product. Clinical Toxicology 2010; 48:725-729.